

Enclosure 1b

CLAIMS

1. A process for the preparation of a compound of formula



5 wherein A is a C₂-C₆ alkylene chain,

comprising the nitration of a compound of formula



wherein A is as defined above,

with nitric acid having a concentration ranging from 83 to 85% and
10 substantially free from nitrous acid and nitrogen oxides.

2. A process as claimed in claim 1, wherein the compound of formula (I) is ethanediol-mononitrate; 1,3-propanediol-mononitrate; 1,4-butanediol-mononitrate; 1,5-pentanediol-mononitrate or 1,6-hexanediol-mononitrate.

3. A process according to any one of claims 1-2, wherein the reaction is carried
15 out in a water-immiscible chlorinated organic solvent.

4. A process as claimed in claim 3, wherein the chlorinated organic solvent is a mono-, di-, tri- or tetra-chloro C₁-C₄-alkyl hydrocarbon.

5. A process according to any one of claims 1-4, wherein the weight ratio of nitric acid to the compound of formula (II) ranges from 10 : 1 to 15 : 1.

- 20 6. A process according to any one of claims 1-4, wherein the nitration is carried out for a time ranging from 10 to 30 minutes.

7. A process according to any one of claims 1-6, wherein the compound of formula (II) is 1,4-butanediol and the weight ratio of nitric acid to butanediol ranges from 11: 1 to 14.5: 1.

- 25 8. Nitration mixture in a water-immiscible organic chlorinated solvent comprising a compound of formula (I), as obtainable by the process of claim 1.

9. Nitric acid characterized in that it has a concentration ranging from 83 to 85% and is substantially free from nitrous acid and nitrogen oxides.

10. Process for the preparation of nitric acid as defined in claim 1 or 9 comprising the dilution of fuming nitric acid with water to a concentration of about 83 - 85% and treatment with urea or sulfamic acid, in amount ranging from 0.3 to 1% w/w, for a time ranging from 80 to 130 minutes.